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=> file medline hcaplus embase biosis biotechds scisearch
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

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=> s 6-deoxyglycosyl transferase and (Escherichia coli expression or host cell?)
   3 FILES SEARCHED...
L1             2 6-DEOXYGLYCOSYL TRANSFERASE AND (ESCHERICHIA COLI EXPRESSION OR
                 HOST CELL?)

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2             1 DUP REM L1 (1 DUPLICATE REMOVED)

=> d l2 ibib ab

L2   ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2005 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         2004:252525  HCAPLUS
DOCUMENT NUMBER:          140:265626
TITLE:                    Recombinant production of glycosylated diphosphate
                          6-deoxy-sugar, polyketide and erythromycins in
                          Escherichia coli
INVENTOR(S):              Khosla, Chaitan; Gramajo, Hugo
PATENT ASSIGNEE(S):       The Board of Trustees of the Leland Stanford Junior
                          University, USA; Kosan Biosciences, Inc.
SOURCE:                   PCT Int. Appl., 21 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     --------------       ----   --------    --------------------     --------
     WO 2004024744         A2    20040325    WO 2003-US24109          20030731
     WO 2004024744         A3    20040715
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
             TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
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US 2004214276 A1 20041028 US 2003-632682 20030731
PRIORITY APPLN. INFO.: US 2002-400122P P 20020731
AB The invention relates to methods and materials relating to a recombinant Escherichia coli (E. coli) **host cell** contg. an expression system for producing a nucleotide diphosphate 6-deoxy-sugar. The **host cell** may also comprise an expression system for producing a **6-deoxyglycosyl transferase**, and an expression system for producing a polyketide to produce glycosylated polyketide. More specifically, the invention relates to an E. coli **host cell** contg. one or more an expression systems for producing erythromycins or intermediates thereto. The eight S. venezuelae desI-desVII genes were expressed in Escherichia coli and TDP-desosamine was synthesized.

=> s 6-deoxyglycosyl transferase and dna
L3 0 6-DEOXYGLYCOSYL TRANSFERASE AND DNA

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	11.39	11.60

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.73	-0.73

FILE 'REGISTRY' ENTERED AT 11:30:02 ON 22 FEB 2005
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STRUCTURE FILE UPDATES: 21 FEB 2005 HIGHEST RN 835594-12-2
DICTIONARY FILE UPDATES: 21 FEB 2005 HIGHEST RN 835594-12-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> s 6-deoxyglycosyl transferase
6855392 6
0 DEOXYGLYCOSYL
75373 TRANSFERASE
L4 0 6-DEOXYGLYCOSYL TRANSFERASE
(6(W)DEOXYGLYCOSYL(W)TRANSFERASE)

=> file medline hcaplus embase biosis biotechds scisearch

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	14.66	26.26

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.73

FILE 'MEDLINE' ENTERED AT 11:31:06 ON 22 FEB 2005

FILE 'HCAPLUS' ENTERED AT 11:31:06 ON 22 FEB 2005
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FILE 'EMBASE' ENTERED AT 11:31:06 ON 22 FEB 2005

FILE 'BIOSIS' ENTERED AT 11:31:06 ON 22 FEB 2005

FILE 'BIOTECHDS' ENTERED AT 11:31:06 ON 22 FEB 2005

FILE 'SCISEARCH' ENTERED AT 11:31:06 ON 22 FEB 2005


```
=> s 6-deoxyglycosyl transferase
L5            2 6-DEOXYGLYCOSYL TRANSFERASE

=> s 6 deoxyglycosyl transferase
L6            2 6 DEOXYGLYCOSYL TRANSFERASE

=> s 6-deoxyglycosyltransferase
L7            2 6-DEOXYGLYCOSYLTRANSFERASE

=> s 6-deoxy glycosyltransferase
L8            0 6-DEOXY GLYCOSYLTRANSFERASE

=> s 6-deoxy glycosyl transferase
   4 FILES SEARCHED...
L9            0 6-DEOXY GLYCOSYL TRANSFERASE

=> s nucleotide diphosphate sugar and Escherichia coli
   2 FILES SEARCHED...
L10           4 NUCLEOTIDE DIPHOSPHATE SUGAR AND ESCHERICHIA COLI

=> dup rem l10
PROCESSING COMPLETED FOR L10
L11            4 DUP REM L10 (0 DUPLICATES REMOVED)

=> d l11 1-4 ibib ab

L11   ANSWER 1 OF 4  BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2004-12425  BIOTECHDS
TITLE:            Recombinant Escherichia coli host cell
                  useful for producing a glycosylated polyketide, contains
                  expression system for producing at least one nucleotide
                  diphosphate 6-deoxy-sugar;
                     involving vector plasmid pKH26-mediated gene transfer and
                     expression in Escherichia coli
AUTHOR:           KHOSLA C; GRAMAJO H
PATENT ASSIGNEE:  UNIV LELAND STANFORD JUNIOR; KOSAN BIOSCIENCES INC
PATENT INFO:      WO 2004024744 25 Mar 2004
APPLICATION INFO: WO 2003-US24109 31 Jul 2003
PRIORITY INFO:    US 2002-400122 31 Jul 2002; US 2002-400122 31 Jul 2002
DOCUMENT TYPE:    Patent
LANGUAGE:         English
OTHER SOURCE:     WPI: 2004-295071 [27]
AB    DERWENT ABSTRACT:
      NOVELTY - A recombinant Escherichia coli host cell
      (I) containing an expression system for producing at least one nucleotide
```

diphosphate 6-deoxy-sugar.

BIOTECHNOLOGY - Preferred Cell: (I) further comprises an expression system for expressing 6-deoxyglycosyl transferase or for the synthesis of a polyketide. The sugar is chosen from desosamine, cladinose, mycaminose, oleandrose, forosamine, daunosamine, mycarose, ascarylose, rhamnose, and mycosamine under conditions where the **nucleotide diphosphate sugar** is produced and the 6-deoxyglycosyl transferase is expressed. The sugar is D-desosamine. The expression system comprises desosamine biosynthetic genes from Streptomyces venezuelae, Saccharopolyspora erythraea, Streptomyces narbonesis or Streptomyces antibioticus. The desosamine biosynthetic genes are preferably from Streptomyces venezuelae. The desosamine biosynthetic genes comprise des I-des VI and des VIII genes. (I) further comprises an expression system for expressing a desosaminyltransferase. The expression system for the synthesis of a polyketide comprises genes encoding a 6-deoxyerythronolide B synthase. (I) further comprises an expression system for a 6-erythronolide B 6-hydroxylase. The expression system for producing at least one nucleotide diphosphate 6-deoxy-sugar comprises genes encoding enzymes that produce thymidine-diphosphate (TDP)-mycarose, and where the expression system for expression a 6-deoxyglycosyltransferase expresses a mycarosyltransferase. (I) is further modified with an expression system for an erm ribosomal methyltransferase. (I) further comprises an expression system for producing TDP-desosamine and a desosaminyltransferase. (I) further comprises an expression system for an erythromycin D 12-hydroxylase, or erythromycin C 3-O-methyltransferase. The expression system for producing nucleotide diphosphate 6-deoxy-sugar does not comprise biosynthetic genes from Micromonospora megalomicea.

USE - (I) is useful for producing a glycosylated polyketide such as 6-deoxyerythronolide B, which involves feeding a polyketide to a culture of (I) under conditions where the nucleotide diphosphate 6-deoxy-sugar is produced and the 6-deoxyglycosyl transferase is expressed. (I) is also useful for producing an erythromycin analog, which involves culturing (I) under conditions where the genes in each expression system are expressed to produce functional enzymes (claimed).

EXAMPLE - A cosmid clone containing eight genes involved in the biosynthesis of thymidine diphosphate (TDP)-desosamine from Streptomyces venezuelae was obtained. Each of the eight des genes (des I-des VIII) was assembled into a single pET28 construct (pKH26). The pKH26 was transformed into **Escherichia coli** BL21 and was cultured in LB medium with 50 microg/ml ampicillin at 37 degrees C. Expression of each target gene was induced by supplementing the culture with isopropyl thiogalactoside. For Des I, II, IV, V, and VI production, culture was incubated at 30 degrees C for another 6 hours and for Des IV, VII, and VIII production, culture was incubated at 15 degrees C for 20 hours. Cell lysates were prepared by sonication on ice and insoluble materials were removed by centrifugation and the expressed products were purified, and was found that all genes were expressed in soluble form. The experiment was repeated and various 6-deoxyerythronolide B (6-dEB) aglycones were fed to the culture and the induced culture was grown at 18 degrees C for 24 hours. The supernatant of the culture was extracted with three volumes of ethyl acetate/triethyl amine (99:1). The extract was evaporated to dryness and dissolved in a small volume of methanol for analysis with liquid chromatography spectroscopy (LC/MS) for the presence of the desosaminylated aglycones. The LC/MS analysis of the extract from the culture supplemented with erythromycin A was performed. A mass peak corresponding to that of erythromycin A was clearly identified. The extract from the culture with a mixture of 13-methyl-, 13-ethyl, and 13-propyl-6-dEB was analyzed. Mass peaks corresponding to the molecular weight of the expected 5-desosaminylated product of the corresponding aglycone were present. The extract from the culture where only 13-propyl-6-dEB was fed exhibited only the mass peak corresponding to 5-desosaminyl-13-propyl-6-dEB, providing further support that the observed peaks were those corresponding to the desosaminylated aglycones. From the culture where no aglycone was fed, none of the desosaminylated

aglycone peaks were observed. Thus, the above results confirmed that E.coli successfully synthesized TDP-desosamine, and was also found to be successfully glycosylating appropriate aglycone substrates. (21 pages)

L11 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:184038 HCAPLUS
DOCUMENT NUMBER: 128:242978
TITLE: Process for preparing sugar nucleotide
INVENTOR(S): Takenouchi, Kenji; Hamamoto, Tomoki; Noguchi, Toshitada
PATENT ASSIGNEE(S): Yamasa Corporation, Japan; Takenouchi, Kenji; Hamamoto, Tomoki; Noguchi, Toshitada
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9811248	A1	19980319	WO 1997-JP3021	19970829
W: AU, CA, CN, HU, JP, KR, MX, US, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2237199	AA	19980319	CA 1997-2237199	19970829
AU 9740322	A1	19980402	AU 1997-40322	19970829
EP 867516	A1	19980930	EP 1997-937839	19970829
R: CH, DE, ES, FR, GB, IT, LI				
CN 1200765	A	19981202	CN 1997-191233	19970829
JP 3231791	B2	20011126	JP 1998-509602	19970829
US 6040158	A	20000321	US 1998-68198	19980505

PRIORITY APPLN. INFO.: JP 1996-262470 A 19960911
JP 1996-284723 A 19961007
JP 1997-24348 A 19970123
WO 1997-JP3021 W 19970829

AB A process for prepg. a sugar nucleotide from a nucleotide by using a yeast cell, characterized in that both a **nucleotide diphosphate/sugar** pyrophosphorylase and a sugar 1-phosphate are present in the reaction system. According to this process, various sugar nucleotides, which have been prepd. only in low productivity by the conventional yeast cell process, can be efficiently prepd.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 3 OF 4 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation. on STN
ACCESSION NUMBER: 92:584754 SCISEARCH
THE GENUINE ARTICLE: JQ929
TITLE: EXOPOLYSACCHARIDES IN PLANT-BACTERIAL INTERACTIONS
AUTHOR: LEIGH J A (Reprint); COPLIN D L
CORPORATE SOURCE: UNIV WASHINGTON, DEPT MICROBIOL, SEATTLE, WA, 98195 (Reprint); OHIO STATE UNIV, DEPT PLANT PATHOL, COLUMBUS, OH, 43210
COUNTRY OF AUTHOR: USA
SOURCE: ANNUAL REVIEW OF MICROBIOLOGY, (1992) Vol. 46, pp. 307-346
ISSN: 0066-4227.
DOCUMENT TYPE: General Review; Journal
FILE SEGMENT: LIFE
LANGUAGE: ENGLISH
REFERENCE COUNT: 201

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Rhizobial plant symbionts and bacterial plant pathogens produce exopolysaccharides that often play essential roles in the plant

interaction. Many of these exopolysaccharides are acidic heteropolysaccharides that have repeating subunit structures with carbohydrate and noncarbohydrate substituents, while others are homopolysaccharides such as alginate, levan, cellulose, and glucan. While the homopolysaccharides are synthesized by mechanisms that vary with the particular polysaccharide, the heteropolysaccharides as a rule are synthesized by subunit assembly from **nucleotide diphosphate-sugar** precursors on a membrane-bound lipid carrier followed by polymerization and secretion. Many mutants in exopolysaccharide synthesis have been isolated, and in several cases this has led to the identification of genes that function in particular steps of biosynthesis, as well as in regulation of exopolysaccharide biosynthesis. The genetic regulation of exopolysaccharide synthesis in many plant pathogens is complex, perhaps reflecting the various niches, free living and in planta, in which exopolysaccharides function. In some cases, exopolysaccharide synthesis is regulated coordinately with other virulence factors, and in other cases separately. Regulatory genes that have homology to the two-component sensor and transcriptional effector systems are a common motif. In Rhizobium species, exopolysaccharide synthesis is regulated by transcriptional as well as posttranslational mechanisms. Exopolysaccharides function differently in the root-nodule symbiosis versus plant pathogenesis. Specific Rhizobium exopolysaccharide structures promote nodule development and invasion in legumes that form indeterminate nodules. In plant pathogenesis, less specific mechanisms of pathogenesis occur: exopolysaccharides cause wilting by blocking xylem vessels, are partly responsible for water-soaked lesions, and may also aid in invasion, growth, and survival in plant tissues.

L11 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1968:503280 HCAPLUS
DOCUMENT NUMBER: 69:103280
TITLE: The 5'-nucleotidases (uridine diphosphate sugar hydrolases) of the Enterobacteriaceae
AUTHOR(S): Neu, Harold C.
CORPORATE SOURCE: Coll. of Phys. and Surg., Columbia Univ., New York, NY, USA
SOURCE: Biochemistry (1968), 7(10), 3766-73
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The 5'-nucleotidases (**nucleotide diphosphate sugar** hydrolases) of various Enterobacteriaceae were purified and characterized. Previous studies had shown that 5'-nucleotidases of **Escherichia coli**, Shigella, and Citrobacter were released from the cells by the technique of osmotic shock which releases periplasmic or surface enzymes. Fifty percent of the 5'-nucleotidase of Klebsiella-Enterobacter groups was released, and the 5'-nucleotidase of Proteus species could not be released by osmotic shock. The enzymes from all Enterobacteriaceae exhibited similar properties in regard to pH optimum, ion stimulation, substrate specificity, and phys. properties. The 5'-nucleotidases hydrolyzed all 5' ribo- and deoxyribonucleotides in which there was an unsubstituted hydroxyl on the 3' carbon. Nucleoside di- and triphosphates were hydrolyzed to the nucleoside and free phosphate without the formation of pyrophosphate. Uridine diphosphoglucose was hydrolyzed to uridine, glucose 1-phosphate, and phosphate. The greatest stimulation of hydrolysis was caused by Co2+ and Mn2+. Zn2+ and chelating agents were inhibitory. Phosphate did not inhibit. The pH optimum for hydrolysis of 5'-nucleotides was 5.8-6.1. The pH optimum for hydrolysis of UDP glucose was 7-8. All Enterobacteriaceae contained a protein inhibitor of the enzyme. The 5'-nucleotidase inhibitor of 1 organism partially inhibited hydrolytic activity of the 5'-nucleotidase of another species.

=> s 6-deoxyglycosyl transferase

L12 2 6-DEOXYGLYCOSYL TRANSFERASE

=> s desosamine biosynthesis genes
L13 1 DESOSAMINE BIOSYNTHESIS GENES

=> d l13

L13 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:435232 HCAPLUS
DN 139:32515
TI Engineering of recombinant Streptomyces venezuelae narbonolide polyketide synthase for production of novel polyketide products
IN Ashley, Gary; Betlach, Melanie C.; Betlach, Mary; McDaniel, Robert; Tang, Li
PA USA
SO U.S. Pat. Appl. Publ., 74 pp., Cont.-in-part of U. S. Ser. No. 657,440.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 16

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003104597	A1	20030605	US 2001-793708	20010222
	US 2002034797	A1	20020321	US 1997-846247	19970430
	US 6391594	B2	20020521		
	US 6558942	B1	20030506	US 1998-73538	19980506
	US 6503741	B1	20030107	US 1998-141908	19980828
	US 6117659	A	20000912	US 1999-320878	19990527
	US 6509455	B1	20030121	US 2000-657440	20000907
	AU 769288	B2	20040122	AU 2001-57805	20010803
	WO 2002097062	A2	20021205	WO 2002-US5642	20020222
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003162262	A1	20030828	US 2002-160539	20020529
	US 2004209322	A1	20041021	US 2003-727696	20031203
	US 2005026244	A1	20050203	US 2004-468828	20040415
PRAI	US 1997-846247	A2	19970430		
	US 1998-73538	A2	19980506		
	US 1998-87080P	P	19980528		
	US 1998-141908	A2	19980828		
	US 1998-100880P	P	19980922		
	US 1999-119139P	P	19990208		
	US 1999-134990P	P	19990520		
	US 1999-320878	A	19990527		
	US 2000-657440	A2	20000907		
	US 1994-238811	A2	19940506		
	US 1995-486645	A1	19950607		
	US 1998-79919P	P	19980305		
	AU 1998-71722	A3	19980430		
	US 2001-793708	A	20010222		
	WO 2002-US5642	W	20020222		
	US 2002-96790	B1	20020312		

=> d l13 ab

L13 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN

AB Recombinant DNA compds. that encode all or a portion of the narbonolide polyketide synthase (PKS) from Streptomyces venezuelae are used to express recombinant polyketide synthase genes in host cells. The complete PKS gene cluster that ultimately results, in S. venezuelae, in the prodn. of picromycin is provided, as well as the enzymes responsible for the glycosylation and hydroxylation. The narbonolide PKS is composed of a loading module, six extender modules, and a thioesterase domain. These materials include recombinant DNA compds. that encode the C12 hydroxylase (the picK gene), the desosamine biosynthesis and desosaminyl transferase enzymes, and the .beta.-glucosidase enzyme involved in picromycin biosynthesis. A minimal set of seven genes (desI, II, III, IV, V, VI, VIII) is sufficient for biosynthesis of TDP-desosamine from glucose-11-phosphate in Streptomyces lividans. Expression of the minimal **desosamine biosynthesis genes** together with the DesVII desosaminyltranferase in S. lividans has enabled the prodn. of >20 glycosylated macrolides with detectable antibacterial activity. Thus, the host cells demonstrate prodn. of narbonolide, narbonolide derivs., and polyketides that are useful as antibiotics and as intermediates in the synthesis of compds. with pharmaceutical value.

=> d his

(FILE 'HOME' ENTERED AT 11:27:29 ON 22 FEB 2005)

FILE 'MEDLINE, HCAPLUS, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH' ENTERED AT 11:28:12 ON 22 FEB 2005

L1 2 S 6-DEOXYGLYCOSYL TRANSFERASE AND (ESCHERICHIA COLI EXPRESSION
L2 1 DUP REM L1 (1 DUPLICATE REMOVED)
L3 0 S 6-DEOXYGLYCOSYL TRANSFERASE AND DNA

FILE 'REGISTRY' ENTERED AT 11:30:02 ON 22 FEB 2005

L4 0 S 6-DEOXYGLYCOSYL TRANSFERASE

FILE 'MEDLINE, HCAPLUS, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH' ENTERED AT 11:31:06 ON 22 FEB 2005

L5 2 S 6-DEOXYGLYCOSYL TRANSFERASE
L6 2 S 6 DEOXYGLYCOSYL TRANSFERASE
L7 2 S 6-DEOXYGLYCOSYLTRANSFERASE
L8 0 S 6-DEOXY GLYCOSYLTRANSFERASE
L9 0 S 6-DEOXY GLYCOSYL TRANSFERASE
L10 4 S NUCLEOTIDE DIPHOSPHATE SUGAR AND ESCHERICHIA COLI
L11 4 DUP REM L10 (0 DUPLICATES REMOVED)
L12 2 S 6-DEOXYGLYCOSYL TRANSFERASE
L13 1 S DESOSAMINE BIOSYNTHESIS GENES

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	44.71	70.97

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-2.19	-2.92

STN INTERNATIONAL LOGOFF AT 11:42:00 ON 22 FEB 2005

First Hit Fwd Refs Previous Doc Next Doc Go to Doc#

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L1: Entry 2 of 8 File: USPT Feb 1, 2005

US-PAT-NO: 6849395
DOCUMENT-IDENTIFIER: US 6849395 B2

TITLE: Gene cluster screening of clones having DNA from mixed populations of organisms

DATE-ISSUED: February 1, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Short; Jay M.	Encinitas	CA		

US-CL-CURRENT: 435/4; 435/183, 435/6

CLAIMS:

What is claimed is:

1. A method for identifying a polyketide synthase gene cluster of interest comprising: culturing a gene expression library comprising a pool of expression constructs, each expression construct comprising an f-factor based vector containing one or more suitably-sized naturally-occurring genomic DNA fragments, wherein the genomic DNA fragments in the pool of expression constructs are directly obtained from a plurality of species of uncultivated donor microorganisms and wherein the genomic DNA fragments are operably-associated with one or more regulatory regions that drives expression of genes encoded by the genomic DNA fragments in an appropriate host organism; and detecting a naturally-occurring polyketide synthase gene cluster contained in one or more of the naturally-occurring genomic DNA fragments.

2. The method of claim 1, wherein the host organism is a prokaryotic cell.

3. The method of claim 1, wherein the host organism is a eukaryotic cell.

4. The method of claim 1, wherein the donor organism is a fungal cell.

5. The method of claim 1, wherein the donor organism are prokaryotic cells.

6. The method of claim 1, wherein the donor organism are eukaryotic cells.

7. The method of claim 1, wherein the donor organism are fungal cells.

8. The method of claim 1, wherein the genomic DNA fragments are operably associated with their native regulatory region(s).

Previous Doc Next Doc Go to Doc#

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Search Results - Record(s) 1 through 8 of 8 returned.

☐ 1. Document ID: US 6849651 B2

L1: Entry 1 of 8 File: USPT Feb 1, 2005

US-PAT-NO: 6849651
DOCUMENT-IDENTIFIER: US 6849651 B2

TITLE: Synthesis of epothilones, intermediates thereto, analogues and uses thereof

DATE-ISSUED: February 1, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Danishefsky; Samuel J.	Englewood	NJ		
Bertinato; Peter	Old Lyme	CT		
Su; Dai-Shi	New York	NY		
Meng; Dang Fang	New York	NY		
Chou; Ting-Chao	Paramus	NJ		
Kamenecka; Ted	New York	NY		
Sorensen; Erik J	San Diego	CA		
Balog; Aaron	New York	NY		
Savin; Kenneth A	New York	NY		

US-CL-CURRENT: 514/365; 548/204

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 2. Document ID: US 6849395 B2

L1: Entry 2 of 8 File: USPT Feb 1, 2005

US-PAT-NO: 6849395
DOCUMENT-IDENTIFIER: US 6849395 B2

TITLE: Gene cluster screening of clones having DNA from mixed populations of organisms

DATE-ISSUED: February 1, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY

Short; Jay M. Encinitas CA

US-CL-CURRENT: 435/4; 435/183, 435/6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 6524841 B1

L1: Entry 3 of 8 File: USPT Feb 25, 2003

US-PAT-NO: 6524841
DOCUMENT-IDENTIFIER: US 6524841 B1

TITLE: Recombinant megalomicin biosynthetic genes and uses thereof

DATE-ISSUED: February 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McDaniel; Robert	Palo Alto	CA		
Volchegursky; Yanina	Emeryville	CA		

US-CL-CURRENT: 435/252.3; 435/252.35, 435/254.11, 435/320.1, 435/325, 435/419, 536/23.1, 536/23.2, 536/23.7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 4. Document ID: US 6509455 B1

L1: Entry 4 of 8 File: USPT Jan 21, 2003

US-PAT-NO: 6509455
DOCUMENT-IDENTIFIER: US 6509455 B1

TITLE: Recombinant narbonolide polyketide synthase

DATE-ISSUED: January 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ashley; Gary	Alameda	CA		
Betlach; Melanie C.	Burlingame	CA		
Betlach; Mary	San Francisco	CA		
McDaniel; Robert	Palo Alto	CA		
Tang; Li	Foster City	CA		

US-CL-CURRENT: 536/23.2; 435/193, 435/320.1, 536/23.7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 5. Document ID: US 6495348 B1

L1: Entry 5 of 8 File: USPT Dec 17, 2002

US-PAT-NO: 6495348
DOCUMENT-IDENTIFIER: US 6495348 B1
** See image for Certificate of Correction **

TITLE: Mitomycin biosynthetic gene cluster

DATE-ISSUED: December 17, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sherman; David H.	St. Louis Park	MN		
Mao; Yingqing	St. Paul	MN		
Varoglu; Mustafa	St. Paul	MN		
He; Min	St. Paul	MN		
Sheldon; Paul	Fitchburg	WI		

US-CL-CURRENT: 435/76; 435/183, 435/252.3, 435/252.35, 435/320.1, 536/23.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 6. Document ID: US 6303767 B1

L1: Entry 6 of 8 File: USPT Oct 16, 2001

US-PAT-NO: 6303767
DOCUMENT-IDENTIFIER: US 6303767 B1

TITLE: Nucleic acids encoding narbonolide polyketide synthase enzymes from streptomyces narbonensis

DATE-ISSUED: October 16, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Betlach; Melanie C.	San Francisco	CA		
McDaniel; Robert	Palo Alto	CA		

US-CL-CURRENT: 536/23.2; 435/320.1, 536/23.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 7. Document ID: US 6265202 B1

L1: Entry 7 of 8 File: USPT Jul 24, 2001

US-PAT-NO: 6265202
DOCUMENT-IDENTIFIER: US 6265202 B1

TITLE: DNA encoding methymycin and pikromycin

DATE-ISSUED: July 24, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sherman; David H.	St. Louis Park	MN		
Liu; Hung-Wen	Roseville	MN		
Xue; Yongquan	St. Paul	MN		
Zhao; Lishan	St. Paul	MN		

US-CL-CURRENT: 435/252.31; 435/183, 435/252.3, 435/252.33, 435/320.1, 536/23.1, 536/23.2, 536/23.7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 8. Document ID: US 6117659 A

L1: Entry 8 of 8 File: USPT Sep 12, 2000

US-PAT-NO: 6117659
DOCUMENT-IDENTIFIER: US 6117659 A

TITLE: Recombinant narbonolide polyketide synthase

DATE-ISSUED: September 12, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ashley; Gary	Alameda	CA		
Betlach; Melanie C.	Burlingame	CA		
Betlach; Mary	San Francisco	CA		
McDaniel; Robert	Palo Alto	CA		
Tang; Li	Foster City	CA		

US-CL-CURRENT: 435/155; 435/132, 435/189, 435/252.3, 435/252.33, 435/252.35, 435/320.1, 536/23.2, 536/23.7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

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Terms	Documents
6117659	8

Hit List

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Search Results - Record(s) 1 through 2 of 2 returned.

☐ 1. Document ID: US 20040214276 A1

Using default format because multiple data bases are involved.

L3: Entry 1 of 2 File: PGPB Oct 28, 2004

PGPUB-DOCUMENT-NUMBER: 20040214276
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040214276 A1

TITLE: Production of glycosylated macrolides in E. coli

PUBLICATION-DATE: October 28, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Khosla, Chaitan	Palo Alto	CA	US	
Gramajo, Hugo	Berkeley	CA	US	
Hotta, Kinya	Pasadena	CA	US	
Kobayashi, Seiji	Sagamihara		JP	

US-CL-CURRENT: 435/69.1; 435/183, 435/193, 435/252.33, 435/320.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. D

☐ 2. Document ID: US 20040214276 A1, WO 2004024744 A2, AU 2003291619 A1

L3: Entry 2 of 2 File: DWPI Oct 28, 2004

DERWENT-ACC-NO: 2004-295071
DERWENT-WEEK: 200471
COPYRIGHT 2005 DERWENT INFORMATION LTD
TITLE: Recombinant Escherichia coli host cell useful for producing a glycosylated polyketide, contains expression system for producing at least one nucleotide diphosphate 6-deoxy-sugar

INVENTOR: GRAMAJO, H; KHOSLA, C ; HOTTA, K ; KOBAYASHI, S

PRIORITY-DATA: 2002US-400122P (July 31, 2002), 2003US-0632682 (July 31, 2003)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20040214276 A1	October 28, 2004		000	C12N009/00

WO 2004024744 A2	March 25, 2004	E	021	C07H000/00
AU 2003291619 A1	April 30, 2004		000	C07H000/00

INT-CL (IPC): C07 H 0/00; C07 H 21/04; C12 N 1/21; C12 N 9/00; C12 N 9/10

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

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Terms	Documents
nucleotide diphosphate 6-deoxy-sugar	2

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☐	L7	(desosamine or cladinose or mycaminose or oleandrose or forosamine or daunosamine or mycarose or ascarylose or rhamnose or mycosamine) and Escherichia coli	1416
☐	L6	(desosamine or cladinose or mycaminose or oleandrose or forosamine or daunosamine or mycarose or ascarylose or rhamnose or mycosamine) and E. coli	0
☐	L5	nucleotide diphosphate sugar same E. coli	0
☐	L4	nucleotide diphosphate sugar same E. coli.clm.	0
☐	L3	nucleotide diphosphate 6-deoxy-sugar	2
☐	L2	nucleotide diphosphate 6-deoxy sugar	0
		DB=USPT; PLUR=YES; OP=ADJ	
☐	L1	6117659	8

END OF SEARCH HISTORY

L12: Entry 6 of 8 File: USPT Jan 21, 2003

DOCUMENT-IDENTIFIER: US 6509455 B1
TITLE: Recombinant narbonolide polyketide synthase

Drawing Description Text (5):
FIG. 4 has three parts. In Part A, the structures of picromycin (A(a)) and methymycin (A(b)) are shown, as well as the related structures of narbomycin, narbonolide, and methynolide. In the structures, the bolded lines indicate the two or three carbon chains produced by each module (loading and extender) of the narbonolide PKS. Part B shows the organization of the narbonolide PKS genes on the chromosome of Streptomyces venezuelae, including the location of the various module encoding sequences (the loading module domains are identified as sKS*, sAT, and sACP), as well as the picB thioesterase gene and two desosamine biosynthesis genes (picCII and picCIII). Part C shows the engineering of the S. venezuelae host of the invention in which the picAI gene has been deleted. In the Figure, ACP is acyl carrier protein; AT is acyltransferase; DH is dehydratase; ER is enoylreductase; KR is ketoreductase; KS is ketosynthase; and TE is thioesterase.

Detailed Description Text (3):
To appreciate the many and diverse benefits and applications of the invention, the description of the invention below is organized as follows. First, a general description of polyketide biosynthesis and an overview of the synthesis of narbonolide and compounds derived therefrom in Streptomyces venezuelae are provided. This general description and overview are followed by a detailed description of the invention in six sections. In Section I, the recombinant narbonolide PKS provided by the invention is described. In Section II, the recombinant desosamine biosynthesis genes, the desosaminyl transferase gene, and the beta-glucosidase gene provided by the invention are described. In Section III, the recombinant picK hydroxylase gene provided by the invention is described. In Section IV, methods for heterologous expression of the narbonolide PKS and narbonolide modification enzymes provided by the invention are described. In Section V, the hybrid PKS genes provided by the invention and the polyketides produced thereby are described. In Section VI, the polyketide compounds provided by the invention and pharmaceutical compositions of those compounds are described. The detailed description is followed by a variety of working examples illustrating the invention.

Detailed Description Text (36):
The remaining desosamine biosynthesis genes on cosmid pKOS023-26 include the following genes. ORF11, also known as desR, encodes beta-glucosidase and has no ery gene homologue. The picCI gene, also known as desV, is a homologue of eryCI. ORF14, also known as desIV, has no known ery gene homologue and encodes an NDP glucose 4,6-dehydratase. ORF13, also known as desIII, has no known ery gene homologue and encodes an NDP glucose synthase. The picCV gene, also known as desII, a homologue of eryCV is required for desosamine biosynthesis. The picCIV gene also known as desI, is a homologue of eryCIV, and its product is believed to be a 3,4-dehydratase. Other ORFs on cosmid pKOS023-26 include ORF12, believed to be a regulatory gene; ORF15, which encodes an S-adenosyl methionine synthase; and ORF16, which is a homolog of the M. tuberculosis cbhK gene. Cosmid pKOS023-26 also encodes the picK gene, which encodes the cytochrome P450 hydroxylase that hydroxylates the C12 of narbomycin and the C10 and C12 positions of YC-17. This gene is described in

more detail in the following section.

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L14: Entry 7 of 8 File: USPT Jul 24, 2001

US-PAT-NO: 6265202
DOCUMENT-IDENTIFIER: US 6265202 B1

TITLE: DNA encoding methymycin and pikromycin

DATE-ISSUED: July 24, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sherman; David H.	St. Louis Park	MN		
Liu; Hung-Wen	Roseville	MN		
Xue; Yongquan	St. Paul	MN		
Zhao; Lishan	St. Paul	MN		

US-CL-CURRENT: 435/252.31; 435/183, 435/252.3, 435/252.33, 435/320.1, 536/23.1, 536/23.2, 536/23.7

CLAIMS:

What is claimed is:

1. An isolated and purified nucleic acid segment comprising a nucleic acid sequence encoding at least one desosamine biosynthetic polypeptide, wherein the nucleic acid sequence encodes DesI (SEQ ID NO:8), DesII (SEQ ID NO:10), DesIII (SEQ ID NO:12), DesIV (SEQ ID NO:14), DesV (SEQ ID NO:16), DesVI (SEQ ID NO:18), DesVII (SEQ ID NO:20), DesVIII (SEQ ID NO:22), or a fragment thereof which catalyzes a step in desosamine biosynthesis selected from the group consisting of 4-dehydrase, reductase, TDP-glucose synthase, TDP-glucose-4,6-dehydratase, aminotransferase, N-methytransferase, glycosyltransferase and tautomerase.

2. The isolated and purified nucleic acid segment of claim 1 comprising SEQ ID NO:3.

3. An isolated and purified nucleic acid segment which comprises a nucleic acid sequence encoding DesI (SEQ ID NO:8), DesII (SEQ ID NO:10), DesIII (SEQ ID NO:12), DesIV (SEQ ID NO:14), DesV (SEQ ID NO:16), DesVI (SEQ ID NO:18), DesVII (SEQ ID NO:20), DesVIII (SEQ ID NO:22) or DesR (SEQ ID NO:24), or a fragment of DesR which has glucosidase activity.

4. The isolated and purified nucleic acid segment of claim 1 which is from Streptomyces venezuelae.

5. An expression cassette comprising the nucleic acid segment of claim 1 or 3 operably linked to a promoter functional in a host cell.

6. A recombinant bacterial host cell in which at least a portion of a

nucleotide sequence corresponding to the nucleic acid sequence of the nucleic acid segment of claim 1 or 3 is disrupted so as to result in a decrease or lack of desosamine synthesis.

7. The host cell of claim 6 wherein the nucleic acid sequence which is disrupted encodes DesI (SEQ ID NO:8), DesII (SEQ ID NO:10), DesIII (SEQ ID NO:12), DesIV (SEQ ID NO:14), DesV (SEQ ID NO:16), DesVI (SEQ ID NO:18), DesVII (SEQ ID NO:20), DesVIII (SEQ ID NO:22).

8. A host cell, the genome of which is augmented with the expression cassette of claim 5.

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Search Results - Record(s) 81 through 90 of 97 returned.

☐ 81. Document ID: US 6221641 B1

Using default format because multiple data bases are involved.

L18: Entry 81 of 97 File: USPT Apr 24, 2001

US-PAT-NO: 6221641
DOCUMENT-IDENTIFIER: US 6221641 B1

TITLE: Method for making polyketides

DATE-ISSUED: April 24, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Khosla; Chaitan	Stanford	CA		
Lau; Janice	Stanford	CA		
Pohl; Nicola L.	Menlo Park	CA		

US-CL-CURRENT: 435/193; 435/69.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 82. Document ID: US 6215007 B1

L18: Entry 82 of 97 File: USPT Apr 10, 2001

US-PAT-NO: 6215007
DOCUMENT-IDENTIFIER: US 6215007 B1
** See image for Certificate of Correction **

TITLE: Recombinant production of novel polyketides

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Khosla; Chaitan	Stanford	CA		
Hopwood; David A.	Norwich			GB
Ebert-Khosla; Suzanne	Stanford	CA		
McDaniel; Robert	Palo Alto	CA		
Fu; Hong	Stanford	CA		

US-CL-CURRENT: 549/417; 549/389, 549/400, 560/128, 562/433, 562/435, 562/461

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 83. Document ID: US 6214573 B1

L18: Entry 83 of 97 File: USPT Apr 10, 2001

US-PAT-NO: 6214573
DOCUMENT-IDENTIFIER: US 6214573 B1

TITLE: Recombinant production of novel polyketides

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Khosla; Chaitan	Stanford	CA		
Hopwood; David A.	Norwich			GB
Ebert-Khosla; Suzanne	Stanford	CA		
McDaniel; Robert	Palo Alto	CA		
Fu; Hong	Stanford	CA		

US-CL-CURRENT: 435/41; 435/132, 435/133, 435/147, 435/148, 435/252.3, 435/252.33, 435/252.35

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 84. Document ID: US 6177262 B1

L18: Entry 84 of 97 File: USPT Jan 23, 2001

US-PAT-NO: 6177262
DOCUMENT-IDENTIFIER: US 6177262 B1

TITLE: Recombinant host cells for the production of polyketides

DATE-ISSUED: January 23, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ziermann; Rainer	San Mateo	CA		
Betlach; Mary C.	San Francisco	CA		

US-CL-CURRENT: 435/76; 435/252.35

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 85. Document ID: US 6150513 A

L18: Entry 85 of 97 File: USPT Nov 21, 2000

US-PAT-NO: 6150513
DOCUMENT-IDENTIFIER: US 6150513 A

TITLE: Polyketide synthase enzymes and recombinant DNA constructs therefor

DATE-ISSUED: November 21, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wu; Kai	Foster City	CA		

US-CL-CURRENT: 536/23.2; 435/183, 435/189, 435/252.3, 435/320.1, 536/23.7

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 86. Document ID: US 6090601 A

L18: Entry 86 of 97 File: USPT Jul 18, 2000

US-PAT-NO: 6090601
DOCUMENT-IDENTIFIER: US 6090601 A

TITLE: Sorangium polyketide synthase

DATE-ISSUED: July 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gustafsson; Claes	Belmont	CA		
Betlach; Mary C.	San Francisco	CA		

US-CL-CURRENT: 435/183; 435/252.3, 435/320.1, 435/325, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 87. Document ID: US 6080555 A

L18: Entry 87 of 97 File: USPT Jun 27, 2000

US-PAT-NO: 6080555
DOCUMENT-IDENTIFIER: US 6080555 A

TITLE: Synthesis of polyketides from diketides

DATE-ISSUED: June 27, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Khosla; Chaitan	Stanford	CA		
Pieper; Rembert	Washington	DC		
Luo; Guanglin	Providence	RI		
Cane; David E.	Providence	RI		

US-CL-CURRENT: 435/41; 435/64, 435/7.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 88. Document ID: US 6077696 A

L18: Entry 88 of 97 File: USPT Jun 20, 2000

US-PAT-NO: 6077696
DOCUMENT-IDENTIFIER: US 6077696 A

TITLE: Recombinant production of novel polyketides

DATE-ISSUED: June 20, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Khosla; Chaitan	Stanford	CA		
Hopwood; David A.	Norwich			GB
Ebert-Khosla; Suzanne	Stanford	CA		
McDaniel; Robert	Palo Alto	CA		
Fu; Hong	Stanford	CA		
Kao; Camilla	Stanford	CA		

US-CL-CURRENT: 435/135; 435/132, 435/147, 435/148, 435/183, 435/252.3, 435/252.33, 435/252.35, 435/320.1, 536/23.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 89. Document ID: US 6066721 A

L18: Entry 89 of 97 File: USPT May 23, 2000

US-PAT-NO: 6066721
DOCUMENT-IDENTIFIER: US 6066721 A
** See image for Certificate of Correction **

TITLE: Method to produce novel polyketides

DATE-ISSUED: May 23, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY

Khosla; Chaitan	Stanford	CT
Pieper; Rembert	Menlo Park	CA
Luo; Guanglin	Providence	RI
Cane; David E.	Providence	RI
Kao; Camilla	Palo Alto	CA

US-CL-CURRENT: 536/23.1; 435/252.3, 435/252.35, 435/320.1, 435/7.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw. D

☐ 90. Document ID: US 6063561 A

L18: Entry 90 of 97 File: USPT May 16, 2000

US-PAT-NO: 6063561
DOCUMENT-IDENTIFIER: US 6063561 A

TITLE: Polyketide derivatives and recombinant methods for making same

DATE-ISSUED: May 16, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Katz; Leonard	Wheeling	IL		
Stassi; Diane L.	Highland Park	IL		
Summers, Jr.; Richard G.	Appleton	WI		
Ruan; Xiaoan	Lake Bluff	IL		
Pereda-Lopez; Ana	Mundelein	IL		
Kakavas; Stephan J.	Buffalo Grove	IL		

US-CL-CURRENT: 435/4; 435/15, 435/29, 514/29, 536/7.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw. D

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Terms	Documents
6-deoxyerythronolide B synthase and (Escherichia coli expression or host cell?)	97

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☐	L17	L16 and (Escherichia coli expression or host cell?)	28898
☐	L16	(desI or desII or desIII or desIV or desV or desVI or desVII or desVIII or des or 6-deoxyerythronolide B synthase)	6805708
☐	L15	desII.clm.	5
☐	L14	desI.clm.	8
☐	L13	desI-desVI.clm.	0
☐	L12	desosamine biosynthesis genes	8
☐	L11	desosamine biosynthesis genes.clm.	0
☐	L10	desomine biosynthesis genes.clm.	0
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☐	L7	(desosamine or cladinose or mycaminose or oleandrose or forosamine or daunosamine or mycarose or ascarylose or rhamnose or mycosamine) and Escherichia coli	1416
☐	L6	(desosamine or cladinose or mycaminose or oleandrose or forosamine or daunosamine or mycarose or ascarylose or rhamnose or mycosamine) and E. coli	0
☐	L5	nucleotide diphosphate sugar same E. coli	0
☐	L4	nucleotide diphosphate sugar same E. coli.clm.	0
☐	L3	nucleotide diphosphate 6-deoxy-sugar	2
☐	L2	nucleotide diphosphate 6-deoxy sugar	0
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☐	L1	6117659	8

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☐	L21	6-deoxyglycosyl transferase.clm.	1
☐	L20	6-deoxyglycosyl transferase and host cell	3
☐	L19	6-deoxyglycosyl transferase and (Escherichia coli expression or host cell?)	2
☐	L18	6-deoxyerythronolide B synthase and (Escherichia coli expression or host cell?)	97
☐	L17	L16 and (Escherichia coli expression or host cell?)	28898
☐	L16	(desI or desII or desIII or desIV or desV or desVI or desVII or desVIII or des or 6-deoxyerythronolide B synthase)	6805708
☐	L15	desII.clm.	5
☐	L14	desI.clm.	8
☐	L13	desI-desVI.clm.	0
☐	L12	desosamine biosynthesis genes	8
☐	L11	desosamine biosynthesis genes.clm.	0
☐	L10	desomine biosynthesis genes.clm.	0
		DB=USPT; PLUR=YES; OP=ADJ	
☐	L9	6303767	6
		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ	
☐	L8	(desosamine or cladinose or mycaminose or oleandrose or forosamine or daunosamine or mycarose or ascarylose or rhamnose or mycosamine) and Escherichia coli expression system	26
☐	L7	(desosamine or cladinose or mycaminose or oleandrose or forosamine or daunosamine or mycarose or ascarylose or rhamnose or mycosamine) and Escherichia coli	1416
☐	L6	(desosamine or cladinose or mycaminose or oleandrose or forosamine or daunosamine or mycarose or ascarylose or rhamnose or mycosamine) and E. coli	0
☐	L5	nucleotide diphosphate sugar same E. coli	0
☐	L4	nucleotide diphosphate sugar same E. coli.clm.	0
☐	L3	nucleotide diphosphate 6-deoxy-sugar	2
☐	L2	nucleotide diphosphate 6-deoxy sugar	0
		DB=USPT; PLUR=YES; OP=ADJ	
☐	L1	6117659	8